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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,840	12/05/2005	Christoph Porschmann	0112740-1068	4335
29177	7590	10/03/2006	EXAMINER	
BELL, BOYD & LLOYD, LLC P. O. BOX 1135 CHICAGO, IL 60690-1135			LEE, PING	
			ART UNIT	PAPER NUMBER
			2615	

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/531,840

Applicant(s)

PORSCHMANN, CHRISTOPH

Examiner

Ping Lee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 05 December 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-812)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-941)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 10-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 10 and 15 each specifies a control unit controls the repeated movement of the at least two virtual sound sources in succession from a predetermined starting point to a predetermined ending point, and back again to the starting point, and controlling a direction of movement for the at least two virtual sound sources such that the direction of movement coincides with the direction of the movement to be simulated. However, the specification fails to disclose such a control unit for performing such functions. The specification merely mentions a control unit without providing any detail on how to design the control unit to perform such functions. Fig. 1 illustrates the results of the movements at different times. However, no detail of the control unit has been disclosed on how to implement the control unit to perform such function. Simulating the simultaneous movement from at least two virtual sound sources would require a great deal of detail information regarding which signals and how much signals to be applied to each speaker in the acoustic reproduction device. Without providing proper signal, the listener would not be able to (a) distinguish the location of one virtual sound source from the other ones; and (b) to distinguish the movement from one virtual sound source from

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the other ones. Applicant not only fails to show the detail of the control unit, applicant also fails to show the layout of the acoustic reproduction device. It could have two, three, four or five speakers. The design of the control unit depends on the number of the speakers and the locations of such speakers related to the listener. One skilled in the art would not be able to design a control unit based on the specification as originally filed.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10, 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGrath (US007092542B2).

Regarding claims 10, 14 and 15, McGrath discloses a method of simulating a movement in a predetermined direction relative to a reference point in the surrounds of an acoustic reproduction device (33, 34) to produce at least two virtual sound sources (col. 3, lines 2-3; col. 4, lines 18-20) with a control unit controls the repeated movement of the at least two virtual sound sources in succession from a predetermined starting point to a predetermined ending point. Although Figs. 3 and 6 only show a single virtual source, the McGrath's control system is used to simulate multiple moving sound sources (col. 3, lines 2-3; col. 4, lines 18-20).

The claimed limitation that the virtual source is back again to the starting point was not explicitly shown in McGrath. However, applicant fails to define the purpose of having the virtual sound source return back to the starting point. Furthermore, McGrath teaches how to generate simulated virtual sound sources from one location to another. One skilled in the art would recognize that the simulated sound travel path was a matter of design choice to fit the application. If the application requires the virtual sound source to be returned to the starting point, McGrath's control unit could be programmed to perform such function. Thus, it would have been obvious to one of ordinary skill in the art to modify McGrath's system by programming the control unit to having the simulated virtual sound sources to be traveled in a specific path, including returning to the starting point, in order to perform simulation based on the required application.

Regarding claims 11 and 17, the claimed reference point could read on 31 in Fig. 3 or 40 in Fig. 6.

Regarding claims 12 and 13, as shown in Fig. 7, McGrath shows the increase intensity and decrease intensity.


Regarding claim 13, McGrath teaches the constant speed (col. 4, line 25).

Regarding claim 16, McGrath teaches the location data (col. 4, lines 50-60).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fing Lee whose telephone number is 571-272-7522. The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Ping Lee
Primary Examiner
Art Unit 2615

pwl